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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

BLAU, STEPHEN LUTHER

ART UNIT	PAPER NUMBER
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3711

DATE MAILED: 06/15/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/725,458

Applicant(s)

KOHNO, MASARU

Examiner

Stephen L. Blau

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 May 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-16 is/are pending in the application.
- 4a) Of the above claim(s) 10-12 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-9 and 13-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____

DETAILED ACTION

Specification

1. The specification is objected to under 37 C.F.R. rule 1.71 as not being written in a clear and exact way to enable one skilled in the art to make the same. Specifically in page 8 lines 18-25 it states the sole portion 5 is grounded on the plane HP in a state where the face angle of the hitting face 2 is zero. In order to make the face angle zero, as shown in Fig. 3, it is sufficient to rotate the head 1 around the axial center line CL in such a manner that a horizontal tangent line N which is contact with a center of gravity FC of area of the hitting face 2 is in parallel to the vertical plane VP1. The examiner understands what is being discussed based on the response of 9 May 2005 however those figures or explanation are not in the specification. The examiner recommends adding more of an explanation in the specification for figure 3 and/or adding one reference figure which was included in the response on 9 May 2005 to remove this objection. In reading the specification as it is written now of rotating the head around the axial centerline CL it leads the reader to think the head is already finished. Reference figures 1 or 2 of the response on 9 May 2005 show that this is during the design process.

Claim Rejections - 35 USC § 112

2. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

3. Claim 9 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. Claim 9 is not enabling to one skilled in the art in that it is unknown what orientation the head is in for the measuring state with the face angle is set to zero. None of the drawings or the specification shows or explains what angle must be zero. See paragraph above for the recommendation to remove this rejection.

4. The changes to claims 1-2 and 7-8 are agreed with and the rejections under 35 U.S.C. 112, second paragraph, are removed.

Claim Rejections - 35 USC § 103

5. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the

invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

6. Claims 1-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stites in view of 2001-299968.

Stites discloses a wood type head in the form of a driver (abstract, Fig. 1) having a depth L of center of gravity being $30 \text{ mm} \leq L \leq 50 \text{ mm}$ (1.18 –19.7 inches) in the form of a lateral distance from a lower edge of a face to a center of gravity (CGx) being (Col. 5, Lns. 50-51) between 1.5 to 2.65 inches (Col. 6, Lns. 39-40).

Stites lacks a moment M of inertia around a center line of a shaft axis being $4000 \text{ gxc}^2 \leq M \leq 7000 \text{ gxc}^2$ such that L and M meet the conditions as claimed in claims 1-8.

2001-299968 discloses a wood head having a moment of inertia M around a centerline of a shaft being 4661 gxc^2 (Page 5, Table, Verbal Translation). In view of the patent of 2001-299968 it would have been obvious to modify the head of Stites to have a moment M of inertia around a center line of a shaft axis being 4661 gxc^2 in order a moment M of inertia around a center line of a shaft axis used in the market place for woods. As such the head would meet the equations of claims 1-8.

7. Claims 1-3 and 5-8 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stites in view of 1-166781.

Stites discloses a wood type head in the form of a driver (abstract, Fig. 1) having a depth L of center of gravity being $30 \text{ mm} \leq L \leq 50 \text{ mm}$ (1.18 –19.7 inches) in the

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form of a lateral distance from a lower edge of a face to a center of gravity (CGx) being (Col. 5, Lns. 50-51) between 1.5 to 2.65 inches (Col. 6, Lns. 39-40).

Stites lacks a moment M of inertia around a center line of a shaft axis being 4000 $\text{g}\cdot\text{cm}^2 \leq M \leq 7000 \text{ g}\cdot\text{cm}^2$ such that L and M meet the conditions as claimed in claims 1-3 and 5-8.

1-166781 discloses a wood head having a moment of inertia M around a center line of a shaft being 4500 $\text{g}\cdot\text{cm}^2$ (Page 3, Table 2, Verbal Translation) in order to make the moment of inertia on a rotary axis the same for all clubs to produce the same impact time for each club and to have a locus of the hitting ball constant for each club. In view of the patent of 1-166781 it would have been obvious to modify the head of Stites to have a moment M of inertia around a center line of a shaft axis being 4500 $\text{g}\cdot\text{cm}^2$ in order a moment M of inertia around a center line of a shaft axis used in the market place for woods and in order to make the moment of inertia on a rotary axis the same for all clubs to produce the same impact time for each club and to have a locus of the hitting ball constant for each club. As such the head would meet the equations of claims 1-3 and 5-8.

8. Claims 9, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stites in view of 2001-299968 as applied to claims 1-8 above, and further in view of Hirakawa.

Stites discloses a weight member (92) having a density greater than the rest of the head and may be affixed to a sole and embedded within the wall thickness of the

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sole such that the exterior surface of the of the weight member (92) lies flush with the exterior surface of the sole (Col. 5, Ln. 65 through Col. 6, Lns. 20) and a weight member (92) having a great specific gravity firmly attached to a sole portion in an area where a center of gravity of the weight member being set to .2-.7 times of the x_m value in the X-coordinate (Fig. 2, Col. 6, Lns. 29-31, 39-40) and set to .1-.5 times of the y_m value in the Y-coordinate (Fig. 1, Col. 6, Lns. 28-32, 37-39, 45-47).

Stites lacks a weight member having a great specific gravity in a range of 6-25, a weight member mounted in a concave portion formed on a sole portion, a concave portion having a bottom in contact with a weight member, a weight member mounted by plastically deforming the concave portion, and a concave portion having a thickness larger than other portions in a sole.

Hirakawa discloses a weight member having a great specific gravity in a range of 6-25 (Col. 4, Lns. 1-3), a weight member mounted in a concave portion formed on a sole portion, a concave portion having a bottom in contact with a weight member, a weight member mounted by plastically deforming the concave portion (Fig. 2), and a concave portion in the form of wall (23) and spacer (17) having a thickness larger than other portions in a sole (Fig. 2c) in order to firmly fasten a weight to a sole (Abstract). In view of the patent of Hirakawa it would have been obvious to modify the head of Stites to have a weight member having a great specific gravity in a range of 6-25 in order to ensure sufficient weight is used to move the center of gravity of a head. In view of the patent of Hirakawa it would have been obvious to modify the head of Stites to have a weight member mounted in a concave portion formed on a sole portion, a concave

portion having a bottom in contact with a weight member, a weight member mounted by plastically deforming the concave portion and a concave portion having a thickness larger than other portions in a sole in order to firmly fasten a weight to a sole.

9. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stites in view of 2001-299968 and Hirakawa as applied to claims 9, and 13-15 above, and further in view of Rice and Galloway.

Stites lacks a weight member having a mass 5-15% of the entire mass of a head.

Rice discloses adding at least 16 grams to the sole of a head (Col. 4, Lns. 20-22). Galloway discloses a metal head having a weight in the range of 165-300 grams (Abstract). In view of the patents of Rice and Galloway it would have been obvious to modify the head of Stites to have a weight member having a mass 5-15% of the entire mass of a head in order to have sufficient mass to modify the center of gravity location.

10. Claims 9, and 13-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Stites in view of 1-166781 as applied to claims 1-3 and 5-8 above, and further in view of Hirakawa.

Stites discloses a weight member (92) having a density greater than the rest of the head and may be affixed to a sole and embedded within the wall thickness of the sole such that the exterior surface of the of the weight member (92) lies flush with the exterior surface of the sole (Col. 5, Ln. 65 through Col. 6, Lns. 20) and a weight member (92) having a great specific gravity firmly attached to a sole portion in an area where a

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center of gravity of the weight member being set to .2-.7 times of the x_m value in the X-coordinate (Fig. 2, Col. 6, Lns. 29-31, 39-40) and set to .1-.5 times of the y_m value in the Y-coordinate (Fig. 1, Col. 6, Lns. 28-32, 37-39, 45-47).

Stites lacks a weight member having a great specific gravity in a range of 6-25, a weight member mounted in a concave portion formed on a sole portion, a concave portion having a bottom in contact with a weight member, a weight member mounted by plastically deforming the concave portion, and a concave portion having a thickness larger than other portions in a sole.

Hirakawa discloses a weight member having a great specific gravity in a range of 6-25 (Col. 4, Lns. 1-3), a weight member mounted in a concave portion formed on a sole portion, a concave portion having a bottom in contact with a weight member, a weight member mounted by plastically deforming the concave portion (Fig. 2), and a concave portion in the form of wall (23) and spacer (17) having a thickness larger than other portions in a sole (Fig. 2c) in order to firmly fasten a weight to a sole (Abstract). In view of the patent of Hirakawa it would have been obvious to modify the head of Stites to have a weight member having a great specific gravity in a range of 6-25 in order to ensure sufficient weight is used to move the center of gravity of a head. In view of the patent of Hirakawa it would have been obvious to modify the head of Stites to have a weight member mounted in a concave portion formed on a sole portion, a concave portion having a bottom in contact with a weight member, a weight member mounted by plastically deforming the concave portion and a concave portion having a thickness larger than other portions in a sole in order to firmly fasten a weight to a sole.

11. Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Stites in view of 1-166781 and Hirakawa as applied to claims 9, and 13-15 above, and further in view of Rice and Galloway.

Stites lacks a weight member having a mass 5-15% of the entire mass of a head.

Rice discloses adding at least 16 grams to the sole of a head (Col. 4, Lns. 20-22). Galloway discloses a metal head having a weight in the range of 165-300 grams (Abstract). In view of the patents of Rice and Galloway it would have been obvious to modify the head of Stites to have a weight member having a mass 5-15% of the entire mass of a head in order to have sufficient mass to modify the center of gravity location.

Response to Arguments


12. The argument of combining the teaching of Stites with the primary reference of JP '968, the teaching of JP '968 would be destroyed has been considered. As such a new grounds of rejection is being made with Stites being the primary reference. Stites will have a moment of inertia about the shaft axis and JP '968 discloses a suitable moment of inertia. Due to the new rejection, this action is not made final.

Conclusion

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13. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Steve Blau whose telephone number is (571) 272-4406. The examiner is available Monday through Friday from 8 a.m. to 4:30 p.m.. If the examiner is unavailable you can contact his supervisor Greg Vidovich whose telephone number is (571) 272-4415. Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 308-0858. (TC 3700 Official Fax 703-872-9306)

slb/ 12 June 2005


STEPHEN BLAU
PRIMARY EXAMINER